

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **LISTING OF CLAIMS:**

1. (Currently Amended) Photodynamic therapy equipment for treating lesioned part by using a photosensitive substance, which is activated by a light having an intensity of a predetermined range but is not activated by a light having the intensity out of the predetermined range, comprising:

an irradiation means irradiating into a body a pulsed light of a wavelength having the potential for activating the photosensitive substance; and

a control means controlling the intensity of the light ~~, with or without changing an optical power,~~ irradiated by the irradiation means;

wherein said control means ~~is input~~ receives a depth information of a lesioned part and sets up the light irradiating intensity based on the depth information so that the pulsed light is allowed to pass through a healthy superficial part, which is shallower than the lesioned part, while with maintaining a high intensity ~~for not to which does not~~ activate the photosensitive substance ~~through the healthy superficial part, which is shallower than the lesioned part,~~ and the pulsed light ~~reached to reaches~~ the ~~lesion~~ lesioned part at the a predetermined level of attenuated light intensity in order to ~~exhibit the intensity to exactly~~ activate the photosensitive substance in the lesioned ~~part~~ part ~~controls,~~ wherein the predetermined level of attenuated light intensity is based upon the predetermined range of light intensity for activating the photosensitive substance and an attenuation of the light irradiating intensity as it passes through the healthy superficial part.

2. (Original) The photodynamic therapy equipment according to claim 1 wherein the control means further controls the repetition frequency of the light irradiated by the irradiation means.

3. (Previously Presented) The photodynamic therapy equipment according to claim 1, wherein the light having the high intensity has the peak intensity ranging from  $10 \text{ kW/cm}^2$  to  $10 \text{ MW/cm}^2$  which is below a threshold value generating the plasma in the surface of the body by the light pulse irradiation, and a repetition frequency is 1 Hz to 1 kHz.

4. (Canceled).

5. (Previously Presented) The photodynamic therapy equipment according to claim 1 comprising further a detection means detecting at least one of an amount of the photosensitive substance accumulated in the lesioned part and oxygen concentration of the lesioned part.

6. (Previously Presented) The photodynamic therapy equipment according to claim 1, wherein the light is selected from the group consisting of light generated from optical parametric oscillator, semiconductor laser beam, dye laser radiation and second harmonic waves of variable wavelength near-infrared laser beam.

7. (Previously Presented) The photodynamic therapy equipment according to claim 1 comprising further a catheter inserting into the position adjacent to the lesioned part in the body and guiding the light irradiation means to the position adjacent to the lesioned part by a guidance of the catheter.

8. (Previously Presented) The photodynamic therapy equipment according to claim 7 wherein the catheter is a vascular balloon catheter.

9. (Previously Presented) The photodynamic therapy equipment according to claim 7 wherein the catheter is an urethral catheter.

10. (Currently Amended) The photodynamic therapy equipment according to claim 1 wherein the control means controls the depth in the body, where the photosensitive substance is activated, ~~not by changing the total number of pulse of the light irradiated from the light irradiation means, but~~ by controlling the peak intensity of the light.

11. (Canceled)

12. (Currently Amended) The photodynamic therapy equipment according to claim 1 wherein the control means controls the area in the body, where the photosensitive substance is activated, by changing continuously or intermittently the ~~peak~~ intensity of the light irradiated from the light irradiation means.

13. (Currently Amended) A method for controlling ~~[[the]]~~ a photodynamic therapy equipment equipped with an irradiation means irradiating into a body a pulsed light of ~~[[the]]~~ a wavelength having the potential for activating a photosensitive substance, which is activated by a light having an intensity of a predetermined range but is not activated by a light having an intensity out of the predetermined range, and a control means for controlling ~~[[the]]~~ a peak intensity of the light from the irradiation means, comprising:

inputting a depth information of a lesioned part to the control means;

inputting attenuation properties of a healthy superficial part, shallower than the lesioned part, to the control means;

setting up the light irradiating intensity, ~~with or without changing an optical power,~~ by the control means, based on the depth information and the attenuation properties so that the pulsed light is allowed to pass ~~[[with]]~~ while maintaining a high intensity ~~for not to~~ which does not activate the photosensitive substance through the healthy superficial part, ~~which is shallower than the lesioned part,~~ and the pulsed

light ~~reached to~~ reaches the lesioned part at ~~[[the]]~~ a level of attenuated light intensity in order to ~~exhibit the intensity to exactly~~ activate the photosensitive substance in the lesioned part, wherein the level of attenuated light intensity is based upon the predetermined range of light intensity for activating the photosensitive substance and an attenuation of the light irradiating intensity as it passes through the healthy superficial part.

14. (Currently Amended) The method for controlling the photodynamic therapy equipment according to claim 13 wherein the control means further controls ~~[[the]]~~ a repetition frequency of the light irradiated from the irradiation means.

15. (Previously Presented) The method for controlling the photodynamic therapy equipment according claim 13 comprising detecting at least one of an amount of the photosensitive substance in the area adjacent to the lesioned part and oxygen concentration of the lesioned part, and controlling the peak intensity of the light irradiated from the irradiation means by the control means based on a result of detection.

16. (Canceled).

17. (Currently Amended) Photodynamic therapy equipment comprising:  
an irradiation means irradiating a pulsed light of a wavelength having the potential for activating a photosensitive substance, which is activated by the light having an intensity of a predetermined range but is not activated by the light having the intensity out of the predetermined range, and

a control means controlling the irradiation condition of the light irradiated from the irradiation means,

wherein said control means is input a depth information of a lesioned part and sets up the light irradiating intensity, ~~with or without changing an optical power,~~

based on the depth information so that the pulsed light is allowed to pass with maintaining a high intensity for not to activate the photosensitive substance through the healthy superficial part, which is shallower than the lesioned part, and the pulsed light reached to the lesioned part at ~~[[the]]~~ a level of attenuated light intensity in order to ~~exhibit the intensity to exactly~~ activate the photosensitive substance in the lesioned part, wherein the level of attenuated light intensity is based upon the predetermined range of light intensity necessary for activating the photosensitive substance and an attenuation of the light irradiating intensity as it passes through the healthy superficial part, and

wherein the control means controls the activation of the photosensitive substance by changing ~~[[a]]~~ an irradiation condition of the light, ~~as a result wherein~~ a rate of ~~cell death~~ cells damaged by an action of the activated photosensitive substance in a direction of the depth in the body is changed as the irradiation condition of the light changes.

18. (Currently Amended) The photodynamic therapy equipment according to claim 17 wherein the irradiation condition of the light includes at least one of the ~~[[peak]]~~ intensity, wavelength, total irradiation time, total number of ~~[[a]]~~ irradiation ~~[[pulse]]~~ pulses, total irradiation energy, pulse width and repetition frequency of the light.

19-21. (Canceled) .

22. (Currently Amended) The photodynamic therapy equipment according to claim 17 wherein the control means controls the irradiation condition of the light ~~to control a range of the cell fatality rate in order~~ such that ~~[[the]]~~ a rate of cell death is maintained to above ~~[[the]]~~ a predetermined cell fatality ~~[[rate]]~~ threshold.

23. (Currently Amended) The photodynamic therapy equipment according to claim 17 wherein the control means controls the ~~[[peak]]~~ intensity of the light while

keeping the total number of the irradiation pulse of the light irradiated from the light irradiation means constant ~~to control the range of the cell fatality rate.~~

24. (Currently Amended) The photodynamic therapy equipment according to claim 17 wherein the control means controls the ~~[[peak]]~~ intensity of the light while keeping the total irradiation energy of the light irradiated from the light irradiation means constant ~~to control the range of the cell fatality rate.~~

25. (Currently Amended) The photodynamic therapy equipment according to claim 17 wherein the control means changes continuously or intermittently the ~~[[peak]]~~ intensity of the light irradiated by the light irradiation means ~~to control the range of the cell fatality rate.~~

26. (Previously Presented) The photodynamic therapy equipment according to claim 17 further comprising a catheter.

27. (Previously Presented) The photodynamic therapy equipment according to claim 26 wherein the catheter is a vascular balloon catheter.

28. (Previously Presented) The photodynamic therapy equipment according to claim 26 wherein the catheter is an urethral catheter.

29. (Currently Amended) A method of photodynamic therapy comprising:  
~~a step~~ administering to a body a photosensitive substance, which is activated by a light having an intensity of a predetermined range but is not activated by a light having an intensity out of the predetermined range;  
~~a step~~ inputting a depth information of a lesioned part and attenuation information of a healthy superficial part which is shallower than the lesioned part;

~~a step setting up the a~~ light irradiating intensity, ~~with or without changing a~~  
~~light quantity,~~ based on the depth information and the attenuation information so that  
the pulsed light is allowed to pass ~~[[with]]~~ while maintaining a high intensity for not to  
activate the photosensitive substance through the healthy superficial part, which is  
shallower than the lesioned part, and the pulsed light ~~reached to~~ reaches the  
lesioned part at ~~[[the]]~~ a level of attenuated light intensity in order to ~~exhibit the~~  
~~intensity to exactly~~ activate the photosensitive substance in the lesioned part,  
wherein the level of attenuated light intensity is based upon the predetermined range  
of light intensity for activating the photosensitive substance and an attenuation of the  
light irradiating intensity as it passes through the healthy superficial part;

~~a step~~ irradiating into the body a pulsed light of a wavelength having the  
potential for activating the photosensitive substance accumulated in the lesioned part  
of the body by the administration of the photosensitive substance; and

~~a step~~ activating the photosensitive substance in the lesioned part by an  
action of the light having the set intensity within the predetermined range by  
irradiating the light of the high intensity when the pulsed light is irradiated, subjecting  
to damage the lesioned part by an action of the activated photosensitive substance,  
and simultaneously subjecting not to activate activating the photosensitive  
substance in the superficial part shallower than the lesioned part, and thereby  
preserving the superficial part.

30. (Original) The method of photodynamic therapy according to claim 29  
wherein the photosensitive substance is supplied by the systemic administration or  
the local administration to the body including the lesioned part in the step of  
administering the photosensitive substance in the body.